

Aruba Tourism Conference, July, 2002

The Economic Contribution of Tourism to Aruba

Sam Cole

Growth of Tourism in Aruba

- Trends in Tourism Arrivals etc
- Comparison with other Islands – Income and Resources
- Tourist Resort Life Cycle Theory

Contribution of Tourism to Economy

- Trends in Employment, GDP
- Tourism Income and Employment Multipliers
- Impact on GDP, Employment, Immigration, per capita Income, etc

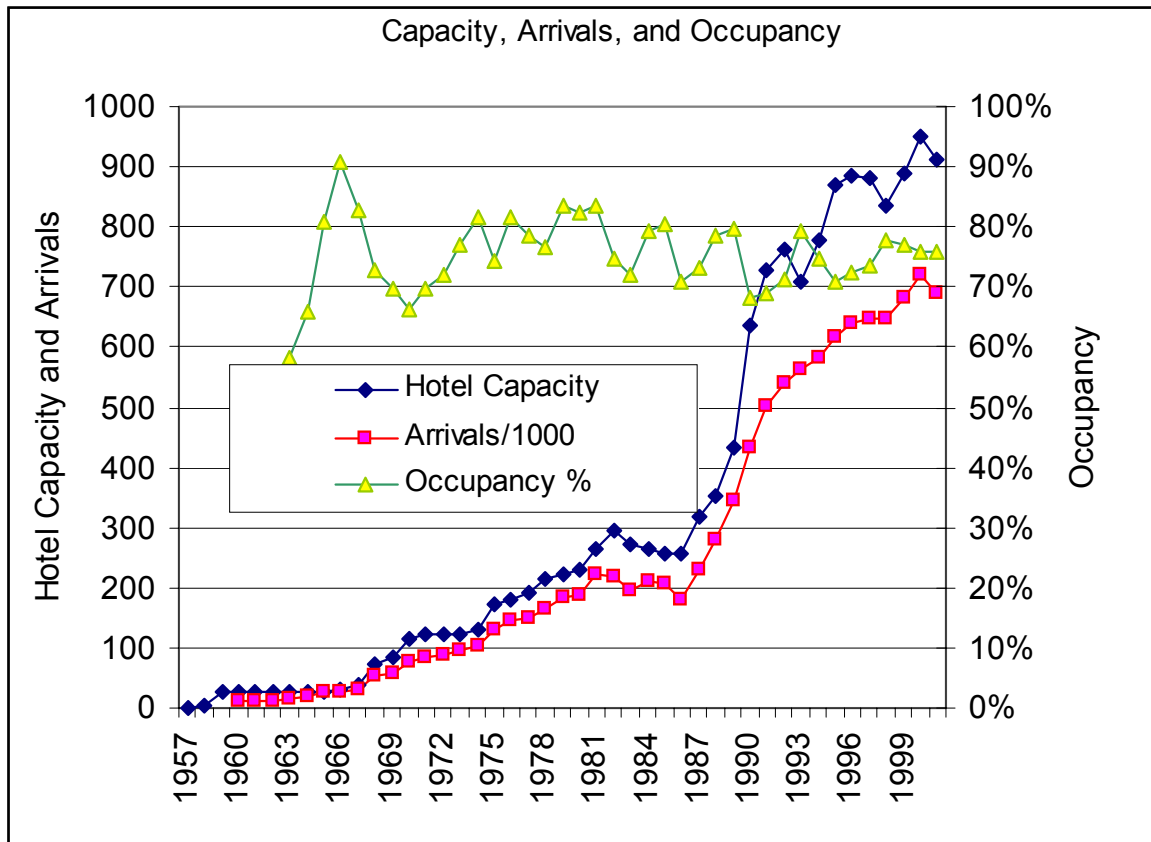
Tourism and Public Sector Finance

- Govt. Incentives, Tourism Related Spending
- Net Revenues per Tourist
- Net Revenues by type of Hotel

Future Trends and New Policy?

- Does Resort Life Cycle Theory Apply to Aruba?
- New Products, Plans, and Partnerships
- Tourism System and Forecasts
- New Strategy or More of the Same?

Tourism Trends in Aruba 1957-2001

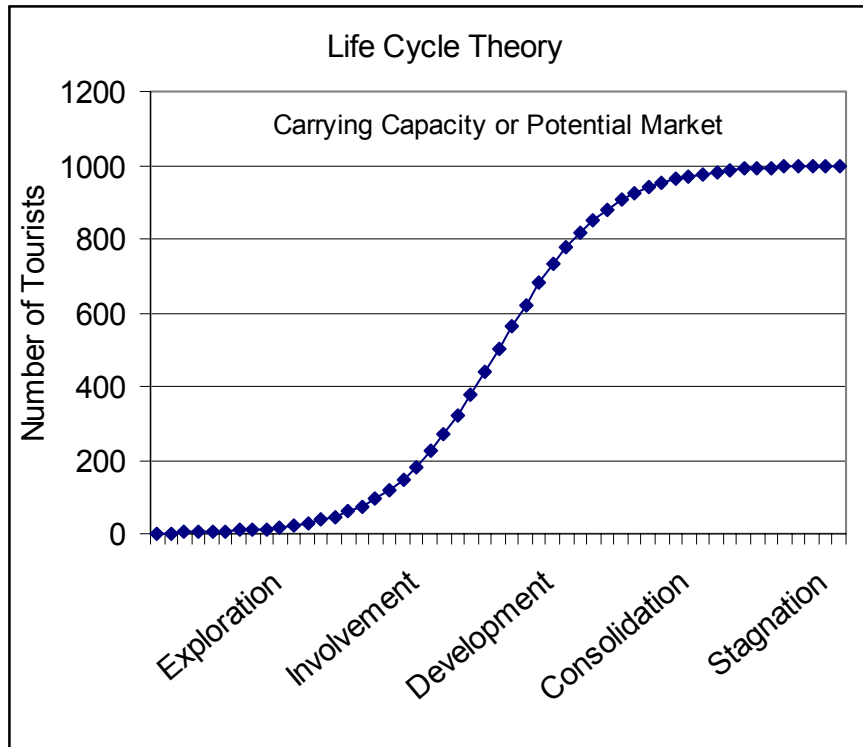


Aruba is one of the most successful tourist destinations in the Caribbean.

However,

- **Growth has been steady but subject to shocks and cycles**
- **Recent slowdown in rate of growth of arrivals and accommodation**
- **High but declining average occupancy (in effect, six hotels are “empty”)**
- **Despite high growth and high occupancy, the tourism sector declares modest profit.**
- **Aruba has become increasingly dependent on tourism**
- **Aruba’s economy is open to commodity and factor markets**
- **Hotel industry is consolidating into powerful mega-chains**
- **Etc. etc.**

Resort Life Cycle Theory



Most widely cited “theory” of tourism (due to Butler 1980)

Stagnation might arise from:

- **Carrying Capacity Constraints (e.g. beaches)**
- **Limited Potential Market (e.g. income or fashion)**
- **Loss of Attractiveness (e.g. distinctiveness culture)**
- **Other Production or Institutional Factors**

Does Aruba fit the theory?

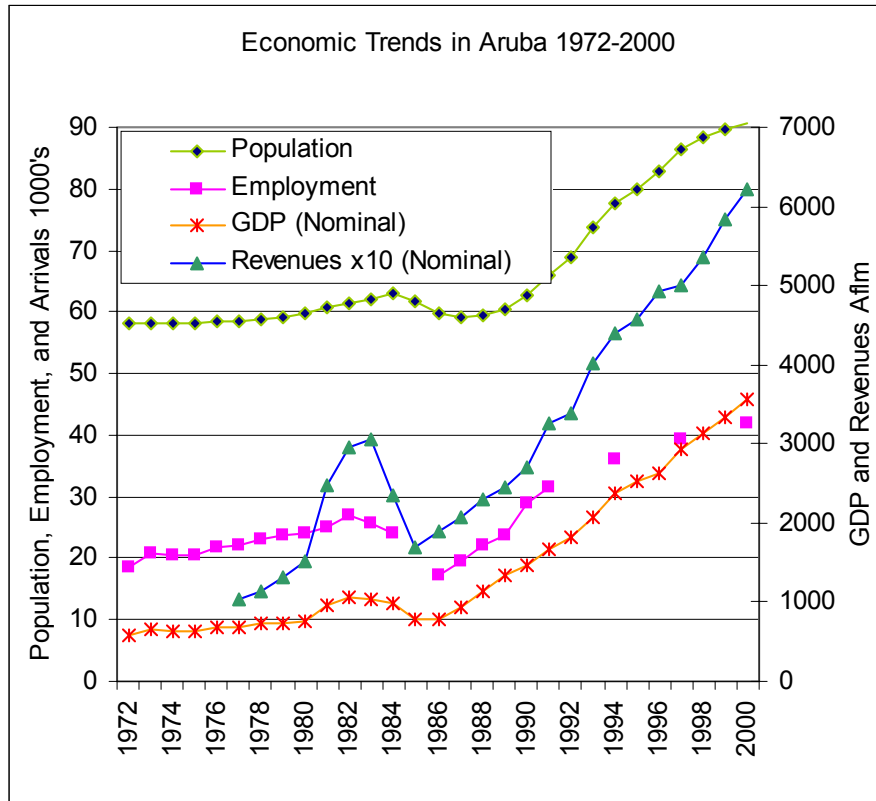
Tourism Income and Density - Aruba and Other Caribbean Islands

Island	Population thousand	GDP \$ /capita (1993)	GDP Growth rates	Tourism % GDP	Rooms/ 1,000	Rooms	Rooms /Km2Area	Rooms /Coastline Km	GDP impact /Room \$k
Netherlands Antilles (So)	158	7600	-1.8%	35%	19	3008	4	34	163
US Virgin Islands	109	11000		59%	50	5450	14	92	130
Netherlands Antilles(No)	36	7600	-1.8%	35%	107	3852	20	92	127
Puerto Rico	3685	6200		6%	3	11055	1	36	124
Cayman Islands	30	23000		49%	115	3450	11	66	95
Antigua & Barbuda	64	6800	3.9%	74%	52	3338	8	52	94
Bahamas	273	10200		47%	49	13377	12	133	91
British Virgin Islands	18	10800		82%	68	1224	5	27	89
Barbados	264	7000	3.2%	25%	22	5808	13	92	77
Aruba	79	13600	6.5%	47%	78	6154	25	130	65
St. Lucia	143	1650	2.2%	69%	21	2997	5	41	58
Turks & Caicos	13	5000	8.7%	81%	82	1066	2	14	52
Anguilla	10	6800	1.4%	91%	103	979	8	29	52
St. Kitts & Nevis	42	3500		52%	38	1596	6	31	46

Source: Guidance for Best Management Practices for Caribbean Coastal Tourism by Island Resources Foundation, St. Thomas, Virgin Islands, December 1996. GDP Growth from ECLAC Economic Survey of Latin America and the Caribbean, 2001, CBS Aruba, Caribbean Development Bank, for years around 1998. Last three columns are author's calculations.

**Aruba has the highest density of tourism by area or coastline,
yet only derives a middling per capita income from tourism.**

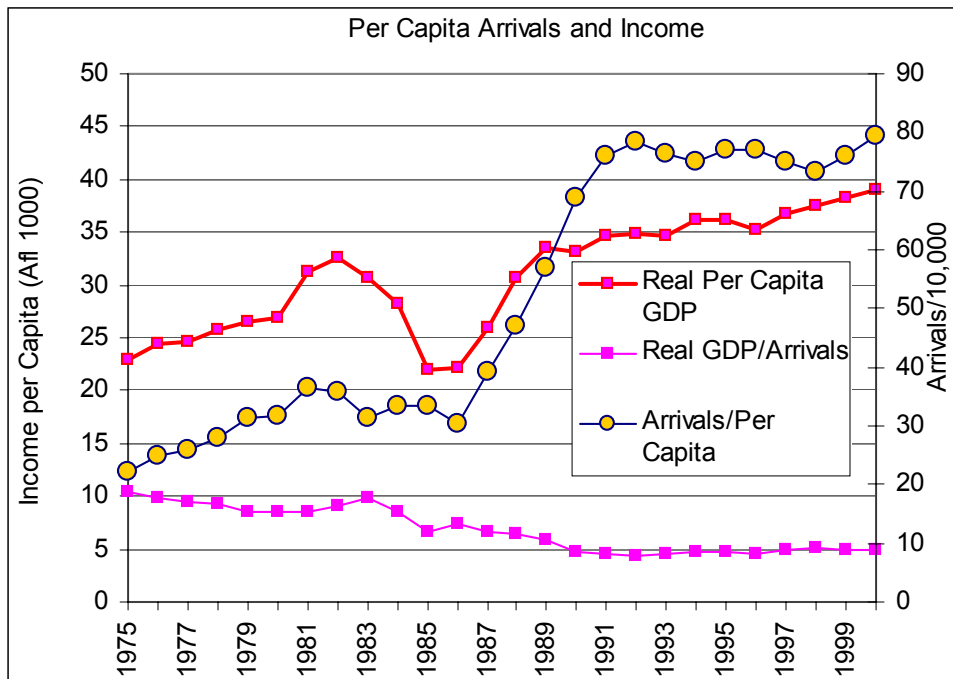
Economic Trends in Aruba 1972-Present



Aruba pulled off a remarkable economic recovery after the shutdown of Lago in 1986 largely through rapid expansion of the tourism industry.

However,

Real Per Capita Income and Tourism Trends

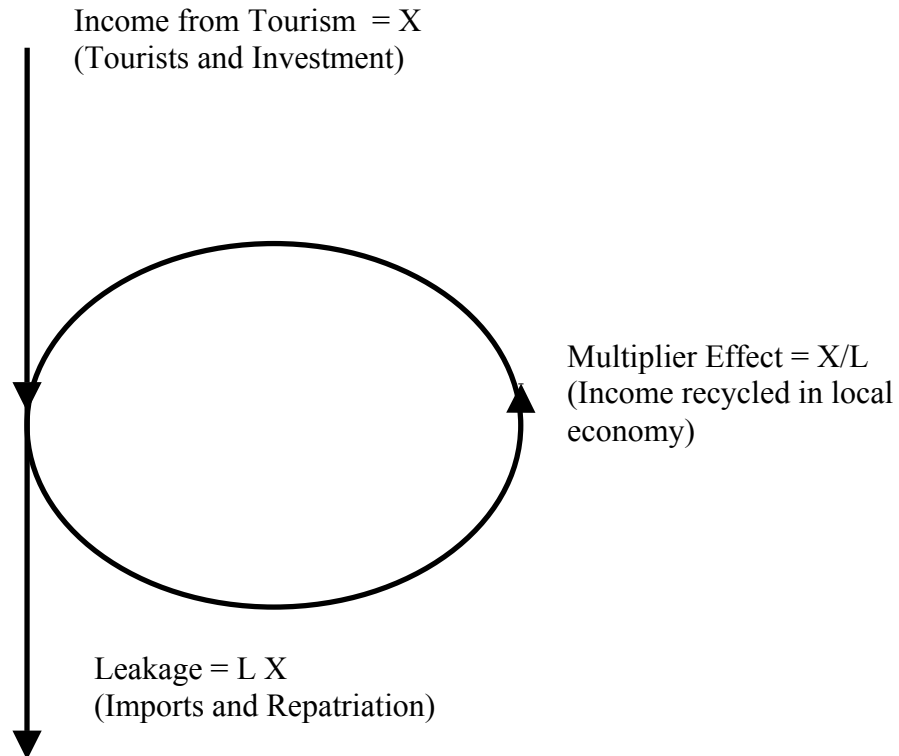


After accounting for inflation and immigration

- **Real average GDP/per capita incomes are rising quite slowly**
- **Little evidence of productivity improvements**
- **Which is a concern if Aruba's tourism potential really is becoming depleted.**
- **Therefore, we need to understand how tourism affects the Aruba's economy, how the tourism system works, and how to estimate the consequences of new projects and strategies.**

Income Multiplier Effect from Tourism in Aruba

A Simple Static Model used to estimate the contribution of all or part of an industry in a given year.



**In Aruba the average leakage $L = 50\%$ so the Multiplier $M = 2$
i.e. total income I to island from \$1 of tourist spending is about \$2**

Average Aruba Tourism Income and Job Multipliers (1998)

Type	Size
Self-Multipliers	
Tourism Output Multiplier*	2.10
Tourism Sector Job Multiplier**	2.16
Inter-relational Multipliers	
GDP/Tourism Income Multiplier*	1.18
Wages/Tourism Income Multiplier*	0.42
Total Jobs per Afl million	19.8

Note: Based on 1998 Aruba Input-Output Table and CBS Data
Calculated as the total long-run impact of all tourism spending.

*Shows income from each Afl of Tourist Income.

**Shows all new jobs in Aruba from one new hotel sector job.

The various multipliers are relevant to specific development needs and policy issues, for example:

- **After Lago closed, Jobs /Tourism multipliers were most relevant.**
- **Today, GDP and Wage multipliers may be more relevant.**

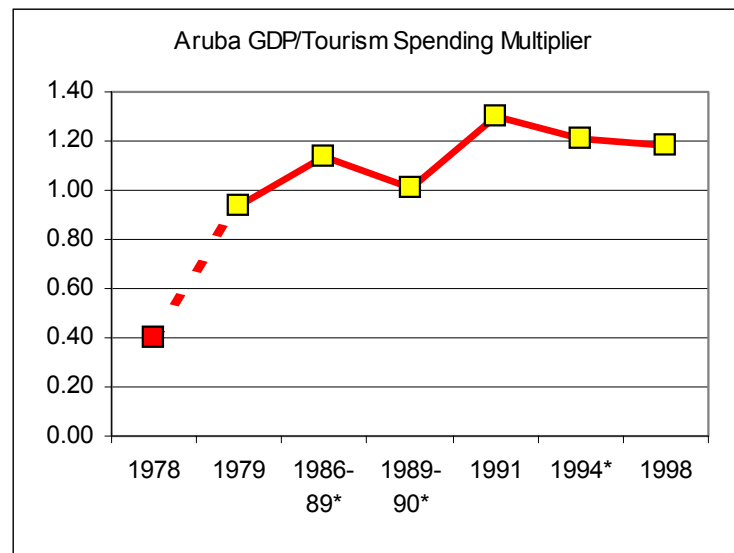
Previous Estimates of GDP/Tourism Income Multiplier

Source	Year	Multiplier
IDAS (1981)*	1980	0.40
ITEO (1981-83)	1979	0.94
IMF (1985)**	1986-9	1.14
DECO National Plan (1986)**	1989-90	1.01
NCEER (1991)	1991	1.30
CBS (1996)	1994	1.21
CUS (2002)	1998	1.18

Note: Calculated by different methods and models.

* includes only first and second round effects

** imputed by author from incremental changes in reported results



- Some evidence that GDP per Tourist Dollar is increasing...
- This is possible, desirable, but seems unlikely.

Estimated Gross GDP Contribution from Tourism
(based on 1998 Aruba Input-Output Table and CBS Data)

Item	Amount Aflm
GDP 1998	2,923
Tourist Spending	
Tourism Exports 1998	1,399
Total GDP Contribution from Tourism	1,824
Share of GDP induced by tourism	62.4%
Construction of Hotels	
Average Hotel Construction	53
Total Contribution to GDP	74
Share of GDP	2.5%
Total Contribution to GDP	64.9%
Total Contribution to Employment	68.7%

Amounts are Afl million (1998)

- This is based on the total long-run impact of all tourism spending.
- Contribution from construction varies over the life cycle of hotels.

Typical Effect of Increased Leakages on One Afl of Tourist Spending

Item	1998 Estimate	Repatriation or Leakage %	Effect of Leakage	Relative Income
New Tourism Exports	1.00		1.00	100%
Increase in Leakage				
Profit Repatriation		9%	-0.03	
Wage Repatriation		12%	-0.07	
Direct Import Leakage		10%	-0.1	
Impact on Income				
Net GDP Contribution from Tourism	1.30		1.06	81%
Compensation of Employees	0.73		0.59	81%
Community, social and personal services	0.55		0.44	79%

Note: Table shows the downstream (or trickle-down) effect of Afl 1.00 of additional tourist spending with increased leakages.

In Aruba a 10% decrease in income retention depresses multipliers by about 20%.

Leakage, Multipliers and Income vary across industry and style of enterprise.

Stylized Examples of Economic Contribution via Different Types of Hotel

Hotel	Tourist Spending X	Leakage L	Multiplier M	Island Income I
Fancy “Club Med” Enclave	\$400	80%	1.25	\$500
Inexpensive Local Hotel	\$100	30%	3.3	\$333
Local Boutique Hotel	\$300	40%	2.5	\$750

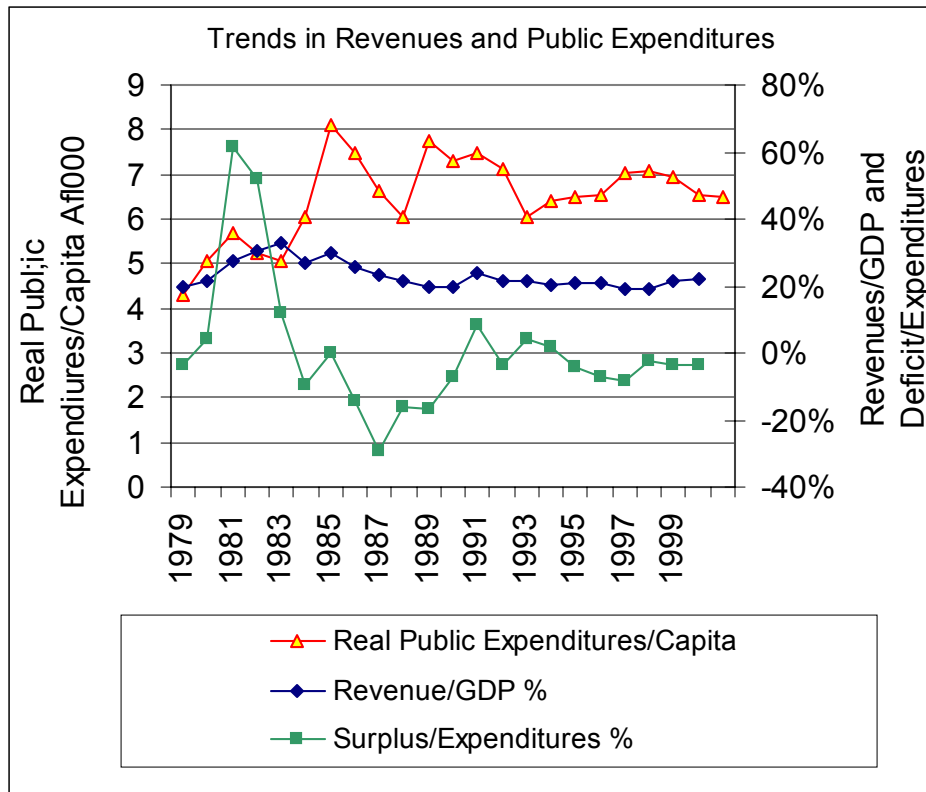
The big question is how to increase X (exports) and minimize L (leakages).

X depends on having the right primary product , marketing, etc. (hotels, airlines, tourism authority)

L depends on the secondary products, local skills, entrepreneurship, etc. (education, economic development agencies)

- **Multipliers can be manipulated through policy.**
- **However, without export markets a high multiplier is of little benefit.**
- **Hence the need for some kind of private-public partnership to establish the best synergy**

Trends in Public Sector Revenue, Expenditures, and Deficit



- **Revenue as share of GDP is falling, but is not especially large by international standards.**
- **Public Sector Deficit is growing, but is not especially large.**
- **Real Public Expenditures/Capita are falling, and are not especially high.**

Calculation of Net Government Income From Tourism

$$\text{Net Revenues} = \text{Tourist and Hotel Revenues} + \text{Other Revenues} + \text{Welfare Saving} \\ - \text{Incentives} - \text{Tourism Related Public Expenditures}$$

Principal items accounted for:

- Room and Casino Tax, Wage Tax, Profit Tax, Import Tax, and Tax Holidays
- Downstream Economy-wide Revenues (Income Tax, Customs Duties, etc.)
- Public Spending on Residents and New Immigrants
- Unemployment Reduction and Welfare Saving
- Tourism Infrastructure Spending and Opportunity Costs
- Other Tourism Support Spending.
- Unit Construction Costs.
- Transfer Payments/Repatriation of Income by Immigrants and Overseas Investors
- Net Saving from Immigrant Workers and Direct Imports.
- Hotel Share of Tourist Spending
- Exit Value of Property
- Consolidated Discounted Present Value of Operation to Corporations.
- Average Net Revenues over Hotel Construction and Operations Lifetime

Data Problems

*Some generalized data are used in the scenarios in order to estimate potential tax revenue. This is because information about individual operations is usually confidential. Good data are rarely available. In the age of creative corporate accounting, one has to use common sense.

Estimated Net Revenues per Hotel Room

(with Taxes paid at Standard Corporate Rate and with some Welfare Saving)

Impact/Unit Afl k	Tourist Spending	Construction and Infrastructure	12 Year Average**
Itemized Revenues			
General Revenues	43.9	25.9	40.9
Net Room/Casino Tax	3.1	-	2.6
Net Profit Tax	0.3	3.6	0.9
Net Revenues	47.1	29.5	44.1
Itemized Expenditures			
Spending on Arubans	19.4	9.5	17.8
Spending on Foreigners	25.3	14.0	23.4
Capital	4.9	2.6	4.5
Welfare Saving*	(8.3)	(8.3)	(8.3)
Opportunity Cost	1.8	10.2	3.2
Net Expenditure	43.0	27.9	40.5
Revenue - Expenditure			
Net Govt. Income	4.0	1.6	3.6

* Welfare Saving on employable unemployed

** Weighted Average over 12 year lifetime

- **This suggests that there is a net public income from tourism**
- **However, in Aruba hotels pay few taxes and there is little unemployment to relieve.**

Estimated Net Revenue to Public Sector from Current Hotel Mix

Scenario	1) With No Tax Holiday		2) With Tax Holiday		3) With Tax Holiday and without Welfare Saving	
Type of Development	Revenue/ Tourist Night Afl	Total Annual Aflm	Revenue/ Tourist Night Afl	Total Annual Aflm	Revenue/ Tourist Night Afl	Total Annual Aflm
Aruba Total/Average	6.3	27.7	1.8	8.5	(7.6)	(34.2)

Based on current mix of hotels. Note: Items in parenthesis show a net loss. The consolidated results are weighted by the present composition of hotels and averaged over a 2-year construction phase and 10-year operation phase.

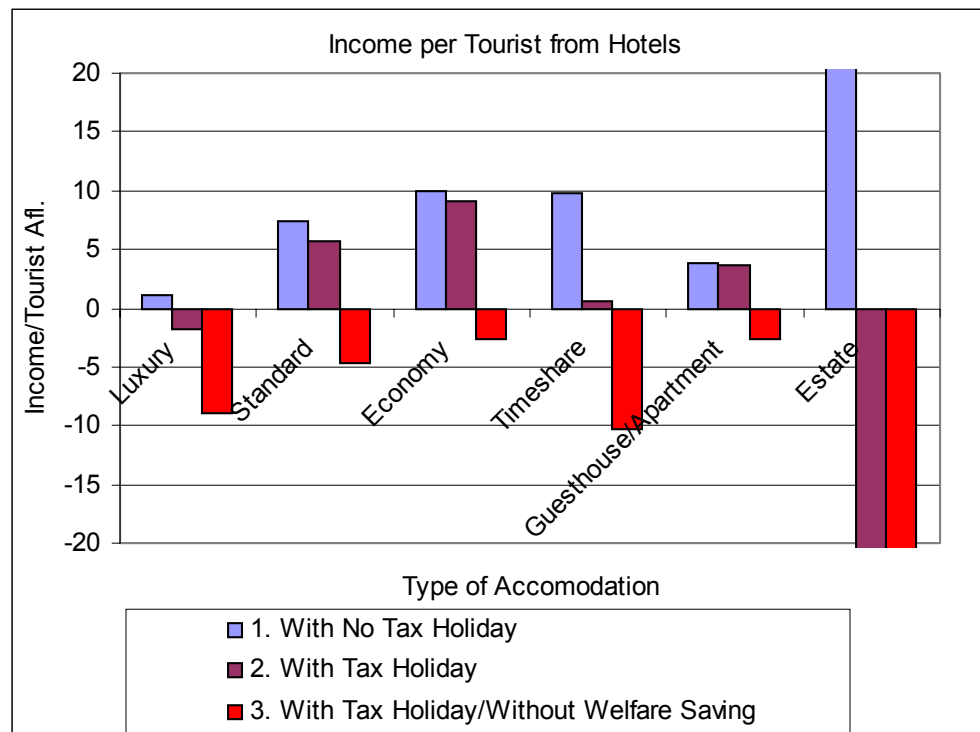
Scenario 3 comes closest to the current situation in Aruba.

- **In this scenario, new immigrant workers become a net revenue source to government since they pay more taxes than they receive in benefits.**
- **It would take a 2.8% increase in the average tax rate on all GDP with no increase in public expenditures to bring Scenario 3 into the black**
- **Hotels in Aruba show almost no net profit yet insofar as occupancy is high and developers are lining up to locate here, there must be significant leakages of income overseas.***
- **Since the current approach to tourism in Aruba already results in a net public sector deficit, then “more of the same” will likely increase the deficit.**

Net Revenue per Tourist Night from New Tourism Developments

Scenario/Type of Accommodation	1. With No Tax Holiday	2. With Tax Holiday	3. With Tax Holiday/Without Welfare Saving
Luxury	1.1	(1.3)	(8.4)
Standard	7.5	6.0	(4.4)
Economy	9.9	9.3	(2.5)
Timeshare	9.7	0.9	(10.0)
Guesthouse/Apartment	3.9	3.7	(2.5)
Estate	44.1	(102.9)	(173.8)

Note: Items in parenthesis show a net loss.

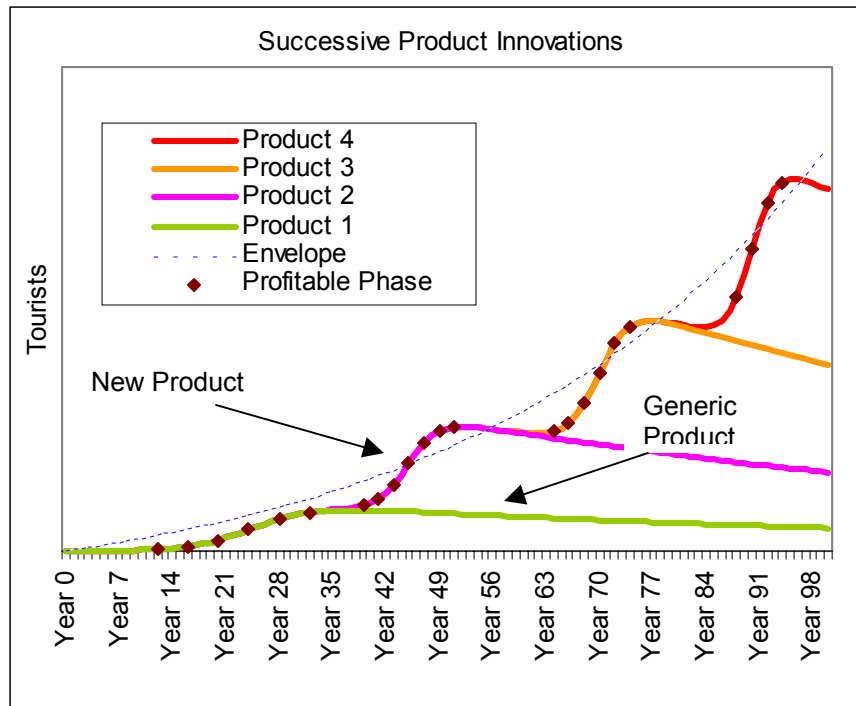


- **Again, Scenario 3 comes closest to the current situation in Aruba.**

- **However, the other scenarios show that a different mix of hotels and public policy could remove the deficit..**

- **Note again that the results for individual hotels or types of accommodation are tentative and depend critically on the details of each property, product, and policy.**

The Rise (and Fall) of Successive Product Innovations



Transport Innovations

- walking, horses, boats and canals, railways, cars and busses, airplanes,...

Tourism Innovations

- lodging houses, hotels, national chains, international chains, timeshare, mega chains, cruise liners, space platforms, ...

• **The resort life cycle theory is incomplete (which does not mean it is wrong).**

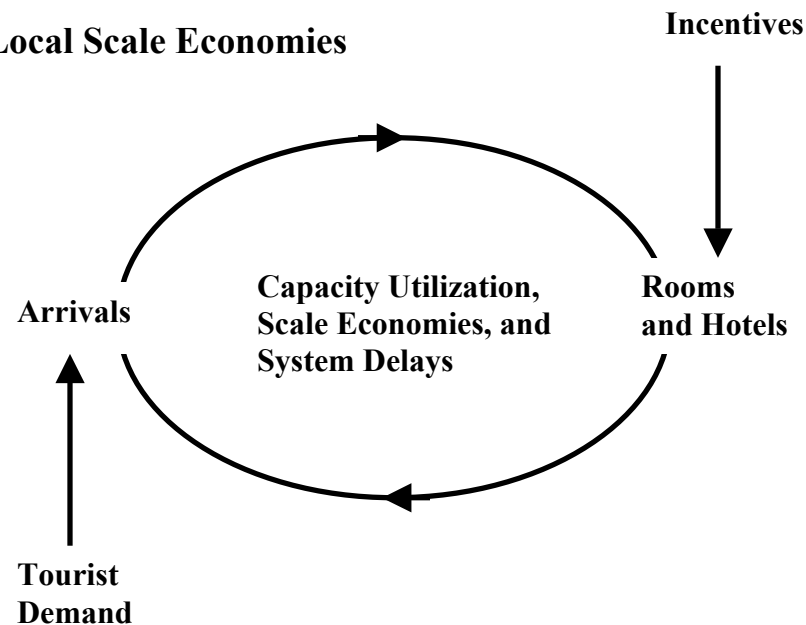
• **Every resort cannot catch every wave.**

• **But combining innovations will facilitate more robust development.**

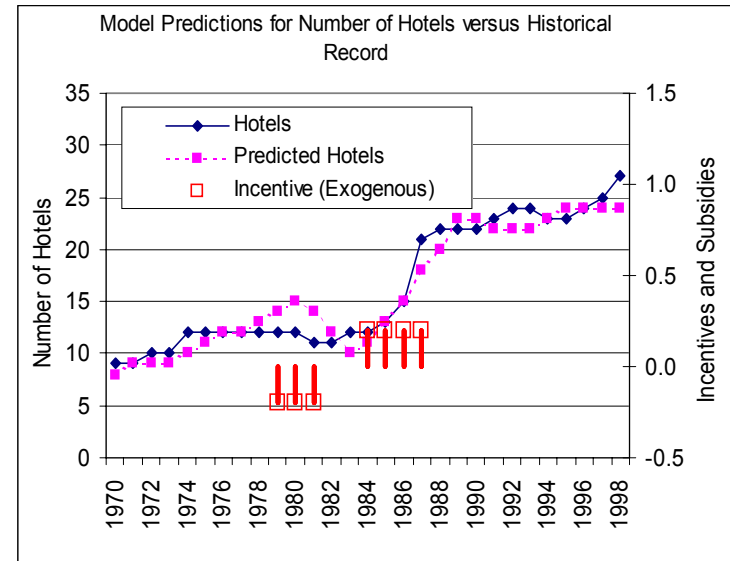
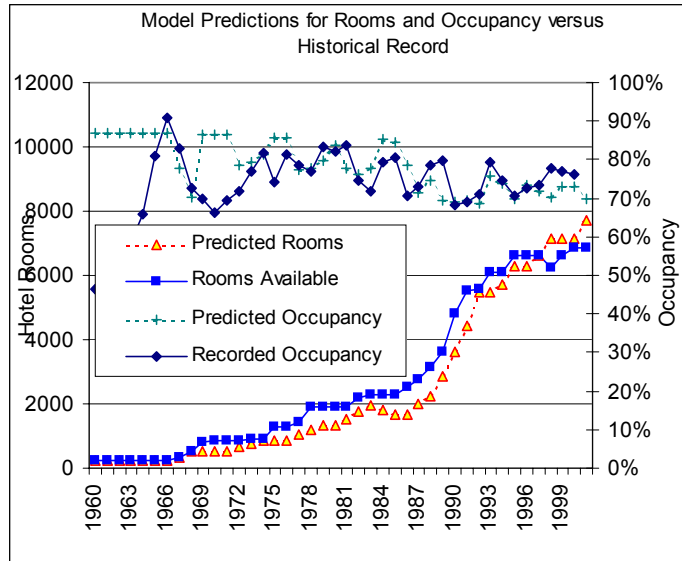
• **Maintain distinctiveness and avoid becoming a generic island paradise.**

Simple Model of the Dynamics of Aruban Tourism

- **Number of Visitors depends on Number of Rooms**
 - build it and they will come provided you offer the right product and market it effectively.
- **Construction of a New Hotel and the Number of Rooms depends on occupancy**
 - provided scale economies warrant construction of a new hotel.
- **Add government incentives and irregular demand because of e.g. recessions.**
- **Include System delays in construction and marketing.**
- **Add Corporate and Local Scale Economies**



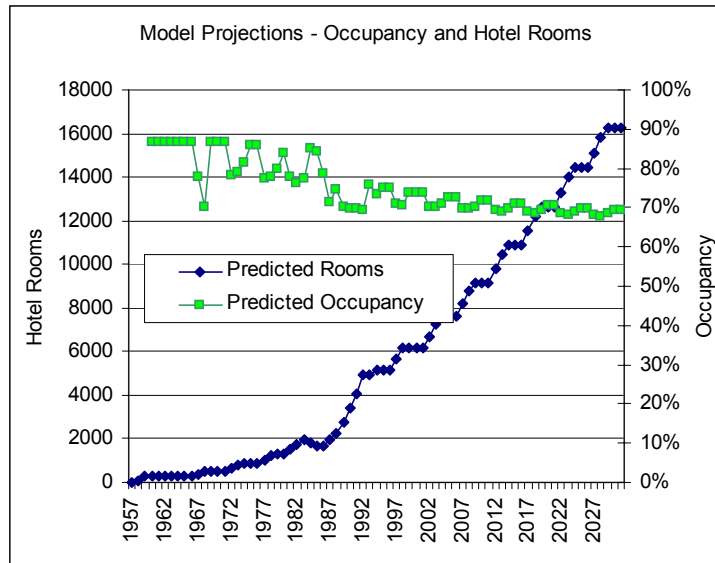
Test of Simple Model against Historic Record of Tourism in Aruba



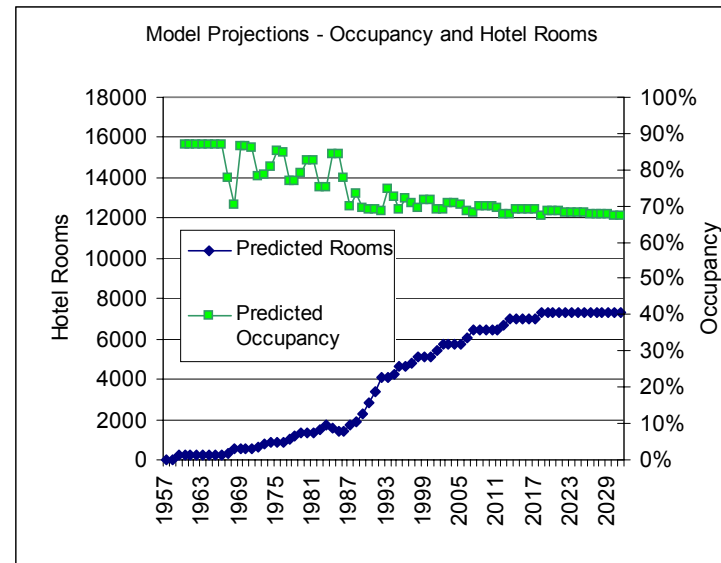
- Assumptions in the simple model recreate many of the key features of the historic record.
- Framework for re-assessing past trends and policies and comparing future strategies.

Projections of Aruba Tourism Capacity and Use

Best fit forecast (so far).



Same model with new competing destinations.



- The forecasts are sensitive to assumptions about scale economies, decision rules, competition, etc.
- Nonetheless, it is important to have a basic understanding of the interplay between supply and demand.

New Products, Plans, and Partnerships

Examine alternative partnership strategies/product mix, for example:

- Partnerships to identify new tourism products to maintain margins, markets, and competitiveness.
- Protection and improvement of the distinctive character of Aruban tourism.
- Strategic partnership with a single mega-chain to secure market (e.g. become Marriott Island)
- Increase local inputs to the construction and operation of the tourism industry to increase multiplier.
- Consolidate existing anchor hotels and expand boutique tourism to deepen and diversify product
- Develop new tourism centers to diversify product and address regional needs in Aruba.

Adopt development indicators and goals other than GDP and arrivals growth, for example:

- Distribution of income, wealth, and employment induced by tourism
- Opportunities for Aruban entrepreneurs and workers
- Education, training, support, and infrastructure required to facilitate opportunities
- Net public sector return sufficient for Aruban development needs.
- Robustness to general and industry specific shocks.
- Fragility of natural, cultural, and social resources

Evaluate specific fiscal, economic, etc. options, for example:

- Role of foreign investors and workers
 - Provide general support rather than tax holidays etc. to individual developers.
 - Increase and/or smooth occupancy to raise capacity utilization.
 - Adapt existing capacity to more innovative use.
 - Limit expansion of new hotels and increase prices.
 - Raise general taxes, end tax holidays, increase minimum wages, etc.
-
- **Most issues can (and should) be addressed in a systematic and comparative way. Even if the findings are not 100% accurate, they can help Aruba to make sensible policy choices.**
 - **Strategies should be evaluated as a package and individual projects should be evaluated on their own merits.**

Small Print: Truth in Tourism Forecasting for Small Places

Tourism is very complex.

Even a partial list of relevant variables would include incremental growth, resource and other constraints, seasonal and climatic phenomena, causal lags, feedback, coupled growth, scale economies, lumpy investment, market competition, technological change, segmented markets, vintage capital, dualistic economies, inter-sectoral links, ad hoc and reactive public policy, external economic shocks and cycles, bad forecasting, inadequate data and theory, competing cultures, symbolism and fashion, an evolving tourism sector and global economic organization, plus variability in weather and climate. Combinations of these variables can lead to complex behavior that even may be inherently unpredictable – in which case a very robust strategy is needed.